BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

RECTAL DISEASES—PARTICULARLY THE OFFICE TREATMENT OF HEMORRHOIDS

I. SYMPTOMS

MONTAGUE S. WOOLF, M.D. (384 Post Street, San Francisco).—Hemorrhoids are vascular swellings composed always of varicose venous channels and, occasionally, also of the arterioles which supply the areas with blood. The situation of these tumors is important for a comprehension of the symptoms produced by them.

The anal canal is about one and a half inches long, and extends upward from the junction of the skin and mucous membrane. In children and young adults this junction is well seen; but increasing years bring an irregularity to the part which obscures the change from skin to mucous membrane. Yet the margin of the skin can at any age be defined. Unlike the glistening mucous membrane, the skin has pigment, hairs, and sebaceous and suderiferous glands, making its texture coarse. The mucous membrane begins where these characteristic qualities end and extends upward for half the length of the anal canal, which would thus be three-quarters of an inch. For so long it is seen to be pink in color and smooth in texture. This part may be prolapsed outside the canal and yet be easily defined. The upper half of the canal might just as easily be considered part of the rectum. Embryologically, it is developed from the same source. This upper one-half of the anal canal is normally thrown into longitudinal columns, which produce a dentate line where it joins the lower half of the canal. The whole canal is grasped by the external sphincter muscle and, in the upper part, the internal sphincter and levator ani muscles with the external sphincter form the anorectal muscular ring, the preservation of which is so important for continence of the orifice. The mucous membrane of the upper part of the anal canal is lax and, as has been stated, folded longitudinally. It contains no nerves conducting sensations of pain. Therefore it may be injected through a needle without anesthesia and without causing pain. In this respect it resembles the mucous membrane of the whole gastro-intestinal tract. The lower half of the canal being lined by smooth squamous epithelium will, on being injected, produce the same painful stimuli as though skin were so treated.

Internal hemorrhoids will now be understood, since they occur in the upper part of the anal canal, to be in themselves unable, unless complicated, to produce pain, while external hemorrhoids originating at the mucocutaneous margin will be subject to pain if damaged, as in inflammation or thrombosis. For this reason, external hemorrhoids are not treated by injection.

We have, therefore, two areas in which varicose tumors may be formed. Those in the upper part of the anal canal are internal hemorrhoids which, owing to the laxity of the tissue and the size of the veins, form large, soft, compressible swellings. The underlying peri-anal veins at the anocutaneous margin form irregular excrescences or tags in this situation often more demonstrable at the anterior and posterior aspects of the orifice, where they are known as sentinel piles.

All of the foregoing is important to the elucidation of symptoms for which hemorrhoids are responsible. An individual is not conscious of the presence in the early stages of the internal or external hemorrhoids. The first sign of the former will be often bleeding at stool when pressure is exerted on the swollen varicosed areas, which may be ruptured and cause a distended vein to bleed. It is very characteristic of this bleeding that it occurs at stool when the mucosa is physiologically everted. Thus, the bleeding is from a freshly ruptured vessel, is bright red, and fairly or definitely profuse. The blood is not retained in the canal because, as soon as the act of defecation is over, the mucous membrane is retracted and compressed by the walls of the anal canal. The bursting pressure is relieved, the rent in the vein closed and the bleeding stops. It is most unusual to find blood in the rectum from internal hemorrhoids which have continued to bleed after reposition of the hemorrhoids, and this applies even to hemorrhoids which are large enough to prolapse at stool. Should the type of bleeding described be not the first sign of internal hemorrhoids, the presence of hemorrhoids may be first suspected by a feeling of fullness in the anal canal which is increased at stool. Later, the individual may be surprised to find blood passed at an evacuation, and this will become more frequent, possibly more profuse, until the hemorrhoids protrude at bowel movements. Then the symptom of bleeding is likely to be replaced by prolapse only, since the hemorrhoidal swellings are not compressed any more against the unyielding anal canal. In the early stages of prolapse the hemorrhoids can be replaced easily by firm pressure. Subsequently they have to be returned even between bowel movements, and, finally, they cannot be returned at all, having become incarcerated. This is just a stage before strangulation takes place. It is only when this final event occurs that internal hemorrhoids become painful. Thrombosis is most uncommon in internal hemorrhoids except on this painful development, when they are swollen, edematous and possibly ulcerated. The pain then is due to extension of the thrombotic process to the nerve fibers in the lower segment of the anal canal, and to the accompanying inflammation and

stretching of the canal itself. Unquestionably, the pulling on the rectal wall, even before it is exaggerated by the torment of actual persistent protrusion, conduces to a considerable feeling of depression on the part of the patient. He becomes nervous, irritable, and uncertain of what may next happen to the part affected. Also, a discharge of mucus from the hemorrhoids adds to his discomfort and disgust. He may develop some urinary irritation as well. If bleeding has been prolonged, continuous and severe, he may develop an anemia of considerable consequence. It is possible, from such a loss of blood, to see patients with percentages of hemoglobin from 10 to 20, as has been my experience, and a red count of under two millions.

External hemorrhoids are, as a rule, of no major importance. They occur at the anocutaneous margin and, as a consequence, are covered partly by squamous mucous membrane and partly by skin. They can always be seen and felt. They occur on account of increasing laxity of the usual radiating anal folds as age progresses. They overlie a circular peri-anal plexus of veins which distribute upward longitudinal branches. These join the internal hemorrhoidal plexus. The veins at the orifice may become varicose and congested, and even infected. They may rupture, causing extravasations of blood, forming the "thrombosed hemorrhoid." This condition is extremely painful. A lump is felt just at the orifice, which may rupture or form a small superficial abscess. The tense, blue, rounded swelling which appears suddenly on exertion, and is exquisitely tender, is easily diagnosed. It may occur even in sleep. When it becomes ulcerated, bleeding in small quantities results; if it goes on to abscess formation, which is quite rare, throbbing is added to the continuous pain of extravasation.

Since external hemorrhoids are due originally to varices, and by exudation from them of serum into the connective tissue, it follows that the characteristic excrescences form. These are enlarged further by irritation due to the usual detergent effect of cleansing; also, the erect posture plays its part by delaying the emptying of the dependent veins. When the folds attain a certain size, they prevent a proper hygiene of the part, and secretions of the perianal skin collect between the folds, which finally become macerated. Itching is a symptom many times due to the presence of external hemorrhoids, both on this account and because of waste tissue products remaining in the unchanged venous pool. If the patient endeavors to relieve himself by scratching, a chronic eczema may form which adds to his discomfort, even producing an exhaustion on account of sleeplessness due to the pruritus.

Internal and external hemorrhoids are very often combined anatomically and symptomatically. When the former become strangulated, the latter will become thrombosed and edematous at the same time. By such a process the greatest enlargement of the combined tumors takes place, swelling, pain, thrombosis, ulceration, and discharge, all being present to the last degree. Finally, in the presence of infection and on account of the portal drainage from this area, an abscess of the liver may result.

II. INJECTION TREATMENT

WILLIAM H. KIGER, M.D. (1930 Wilshire Boulevard, Los Angeles). — In this symposium your editor has requested that I confine my remarks to diagnosis: To reach any intelligent conclusion one must first review a little of the anatomy.

Hemorrhoids are undoubtedly a very ancient malady, for, as far back as it is possible to trace the history of medicine at all, it is possible to find evidence of piles. Hemorrhoids are one of the penalties we pay for the erect position, and one of the chief reasons for this is the anatomy of the parts.

There are three main groups of veins which anastomose around the anal canal. The main plexus of veins lies immediately beneath the mucous membrane and the muscular coat of the bowel. The main artery of the rectum is the superior hemorrhoidal which runs down the desorectum, and divides at the upper level of the rectum into two branches. These run parallel with the wall of the bowel and anastomose lower down with the middle inferior hemorrhoidal arteries, and the latter comes down from the iliac arteries and supplies mainly the tissue outside of the bowel wall. Of the three main groups of veins, the most important is the one running with the superior hemorrhoidal artery. These veins run up the bowel and drain directly into the portal system. The inferior mesenteric vein is a branch of the portal system. The portal vein contains no valves. It is obvious that, while standing in the upright position, there is a column of blood, the length of which is equal to the distance between the skin of the anus and the liver, and as there are no valves there is a fair amount of pressure at the lower end of the column. The reason we suffer from piles is because of the blood in this branch of the plexus having to go into the portal system. Other reasons are: increased intra-abdominal pressure (such as overloading the bowel, which causes increased pressure in the veins); anything which causes congestion of the liver, or anything which causes a vein engorgement; chronic constipation, lifting, straining at stool, pregnancy, pelvic tumors, sedentary habits, etc. Hemorrhoids may be divided into two classes—external and internal. There is no particular age for hemorrhoids, but they are most frequently seen in middle life; they are rare in children. There are two varieties of external piles; one variety consists of tags, or ridges of redundant skin around the margin of the anus, which are of little real importance, although they are always described as piles by patients, and sometimes by physicians. They consist of little less than loose folds of skin with perhaps a little cellular tissue, and, as a rule, cause little inconvenience unless the skin becomes irritated and causes itching. This condition is what the laity call itching piles. The other more common form of external piles is the thrombotic, or venous external pile. This is caused by some kind of traumatism, a sudden strain, either at stool or during any form of exercising, coughing, sneezing, or anything which will make an increase in the intra-abdominal pressure. These

generally develop quite suddenly, and consist of a circular ovoid swelling at the anal margin, varying in size from a small seed to a large cherry. In color they are dark blue, the skin is smooth and shiny. The origin is the rupture of a small vessel and the extravasation of blood into the cellular tissue, causing a hematoma at the anal margin. These swellings most frequently occur at the anal margin, but occasionally are just inside the anus, where they are pinched by the sphincter muscle, and in that position they cause a great deal of pain, due to spasm of the sphincter. Internal hemorrhoids are vascular tumors situated in the lower portion of the rectum. They vary considerably as to size and appearance. There is no special age at which they occur, though they are unusual in children. They occur generally after twenty, when people lead their most active life, and are about equal in males and females. Women are particularly liable to suffer from piles at certain times, especially during pregnancy, and immediately afterward. Occupation has an important bearing on their development, also sedentary habits, overeating, and alcohol; while straining at stool (due to constipation) is probably the most common cause.

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III. TREATMENT

EMERSON F. HOOVER, M.D. (1434 Sixth Avenue, San Diego).—In order to properly treat rectal and anal pathology, it is first necessary that the physician be able to obtain a clear, natural and unobstructed view of the parts in question. I have found that what best meets these requirements is a tubular speculum, thirteen-sixteenths of an inch in diameter, and one and one-half inches in length, attached to a shoulder with a handle containing a lamp which can be raised to view the field, or lowered to permit the introduction of a syringe.

Since 95 per cent of anal pathology is located within one inch of the mucocutaneous or anorectal line, the above-mentioned speculum "specially manufactured by the Cameron Surgical Specialty Company" of Chicago, not only gives a clear natural view, but permits the unobstructed use of instruments through it.

In treating internal hemorrhoids by the injection method, the patient is placed in the left lateral position with the knees strongly flexed toward the abdomen. The anoscope is then fully introduced, then slowly partially withdrawn, permitting one to study the entire pile-bearing area. To use the injection method of treating the internal hemorrhoids, first apply a 2 per cent solution of neutral acriflavine, then using a 2 cubic centimeter Vim syringe containing a 1 per cent solution of novocain, with a 27-gauge needle attached, injecting about 4 minims of this solution into each of the two or three hemorrhoids, which have been selected for treatment at this time. Another similar syringe, containing a 5 per cent solution of quinin and urea, is used, and about one-half to one cubic centimeter is injected into the submucosa at the highest point of the redundancy. The solution should flow freely, and if it does not it is either too superficial or too deep. The needle is allowed to remain one-half minute or more to allow the swelling or edema to occlude the needle puncture.

An interval of from about ten days to two weeks is required to obtain the maximum sclerosing effect. About four injections into each hemorrhoid is necessary to bring about a complete reduction in size.

In order to cure some internal hemorrhoids, a 10 per cent solution of quinin and urea is required. Some physicians find that a 70 per cent solution of alcohol is very effective in the treatment of internal hemorrhoids; using 1 to 2 cubic centimeters per hemorrhoid, while others use a 20 per cent solution of phenol in glycerin, and inject 3 to 5 minims into each hemorrhoid.

No attempt should be made to sclerose external hemorrhoids or skin tags. They should be infiltrated with a novocain solution and excised, and may or may not be sutured.

Anal Fissure.—For the treatment of anal *fissure,* apply a 5 per cent solution of cocain to the fissure, followed by an antiseptic; then insert a fine hypodermic needle one-eighth inch below and parallel to the fissure bed, and thrust it across while slowly injecting a 2 per cent novocain solution. Then change and attach a syringe containing a 5 per cent solution of quinin and urea hydrochlorid. Inject about one cubic centimeter of this solution while slowly withdrawing the needle. This will generally stop all spasm and pain, and will result in the prompt healing of the fissure.

Pruritus Ani.—For the treatment of pruritus ani, I have found that drugs are seldom needed if there is a careful postdefecation cleansing of the anus by a forceful jet of water, directed from the open end of a rubber tube attached to a faucet and held a few inches from the anus and allowed to forcefully cleanse the parts, after which the parts can be carefully dried by blotting with cleansing tissue. Bismuth subgallate may then be dusted on if further help is needed.

Etiology on Appendicitis. — Connell believes that distinction between appendicitis alone, and perforation and peritonitis, is important. Appendicitis is considered as a result of the sequence of obstruction, distention, circulatory stasis and infection. Obstruction may be due to a foreign body (mucous plug, edema or neoplasm), stricture (stasis, angulation, and deformity), and functional derangement (spasm). The effect of the first two factors in obstruction is quite obvious, but that of the last calls for elucidation. The striking difference in the ileocecal region from all other gastro-intestinal situations is that the parasympathetic distribution is double, which permits the possibility of overinnervation or underinnervation. Sympathetic-parasympathetic imbalance is a possible cause of hypertonicity or hypotonicity at the ceco-appendical juncture. The existence of a true sphincter (Gerlach's valve) at this point has been denied, but circular muscle and extrinsic and intrinsic nerve supply, the necessary ingredients, are present. It would seem entirely justifiable to assume that disturbance in autonomic nervous balance might cause spasm or hypertonicity of the neuromusculature at the appendicocecal juncture, which might help to answer the original question as to the why of the obstruction that caused a certain proportion of cases of appendicitis. It would seem probable that overparasympathetic or underparasympathetic innervation of the ileocecal region is due to variations in embryologic development.—*American Journal of Surgery.*